

Repairing Wood Siding on Historic Buildings— Runciman House: A Case Study

Text and photos by Andrew Powter



The historic Runciman House, Annapolis Royal, N.S. is an excellent example of the early 19th-century Regency cottage style. *In the last issue, “Keeping Wood Siding on Historic Buildings” described some of the advantages of retaining historic siding materials and pointed out some of the disadvantages of installing modern materials such as aluminium or vinyl over top of the original siding. It also described the repair and refinishing of wood siding. This article is a case study of some siding repair methods used in the restoration of Runciman House.*

Over the past two years, the Heritage Canada Foundation has been carrying out repairs to the exterior of Runciman House, a 200-year-old historic property it owns in Annapolis Royal, Nova Scotia.

Repair of the exterior siding (including wood shingles on the sides and rear of the building and horizontal bevel siding on the front) is part of the work being handled by Annapolis Royal contractor Sefton Squires of Renaissance Property Services.

The Siding



Evidence of failed paint can be seen on the rear wall shingles.

The side and rear elevations of the house are clad with tapered, sawn, randomwidth standard shingles made of eastern white cedar. The front elevation is clad with 125 mm bevelled wood siding.

Judging from the paint accumulation on the siding, the hand-planed surface and the forged nails, it is safe to say that most if not all of the siding is original to the building. All four walls were finished in a scheme of yellow body with white trim.

Siding Condition



Original forged siding nails. The nails had corroded in the siding area, but remained sound where they were nailed into the framing.

A survey of the building revealed a range of conditions. The wood shingles were in generally good shape. By far the biggest issue was loss of finish as areas of paint and primer had peeled away, leaving bare wood.

The bevel siding on the main façade was a different matter. In discussion with Sefton Squires, it was concluded that this surface was due for life-cycle rehabilitation. Not only were some boards distorted from the horizontal (indicating failure of fasteners), but there were also examples of decay on the ends (mostly on short sections in shady areas), checks and splits, popped fasteners and accumulated layers of paint. Previous selective paint removal had caused damage to lower edges, contributing to a lack of sharpness in the horizontal lines of the building.

Finally, the colour of the siding had faded away to a pale yellow from the earlier, stronger contrast between trim and body.

Treatment

In consultation with the contractor, a treatment regime for the siding was developed. The shingled surfaces would receive a basic prep, prime and a twotopcoat paint treatment. If there were defective or missing shingles they would be replaced in kind, fastened with galvanized nails and refinished along with the rest.

As for the siding, it was decided that the time had come to strip the existing paint back to bare wood—not only because of the accumulated thickness of paint, but also to allow proper inspection and repair of the many small and large defects in the siding. Small defects could be covered with epoxy adhesives, but repairs to cavities and gaps would require gluing and clamping or carpentry repairs. Siding boards would be left separate from each other and free to expand and contract as necessary.

The objective was to replace an absolute minimum of siding material. Criteria for replacement and repair were discussed. It was decided that repairs would be carried out on the building wherever possible; materials would be removed to the shop for repair only when absolutely necessary.

HCF's intention was not to restore the exterior of the building. Considering the changes over time, that would have been impractical, if not impossible. However, physical evidence and historical photographs guided the decision to change the colour to a deeper, stronger, slightly mustard shade in place of the rather anaemic yellow on the building.

Execution

Paint removal was achieved using the “Silent Stripper” infrared system and scrapers. Silent paint removers soften paint and varnish from wood after 20 to 40 seconds of exposure to heat without the use of chemical solvents. (See www.swedepaint.ca).

Paint residue was collected and disposed of according to provincial standards. The side and rear walls were stripped of loose paint, all the bare wood was then primed and the entire wall given two topcoats of paint.

The front wall siding was more complex and, in some places, in a more fragile state. For example, in this type of wall it is not enough to simply drive a popped nail back in. Usually it must be removed, a new fastener installed to the same part of the frame and the old hole filled with putty.

The paint removal process proceeded steadily if slowly and resulted in very little damage to the surface and edges of the siding.

After the wall was clean of paint, it was evident that many of the short sections of siding in the shadow of the porch had to be replaced. Clean spruce boards were used. Since the siding pieces were small and easily shaped and installed, this task presented no real problems.

Fortunately, most of the longer boards had enough structural integrity to remain in service. In the end, repairs to individual siding boards were all done in place, including gluing and clamping splits. This saved the work of cutting nails and reinstalling the long, unwieldy boards.

If larger patches had needed to be done, Dutchman repairs would have been used and spliced in. Repairing woodwork with large volumes of epoxy or other nonwood materials is not recommended due to their different expansion and contraction characteristics.

This type of work is a lot like repairing the hull of a boat, which can often be achieved by a combination of shop and on-site repairs and a lot of careful fitting.

All new material received a coat of primer on all surfaces before being installed. The usual three-coat system was applied to the siding. (The finish paint is Benjamin Moore Exterior Alkyd Latex, medium base, soft gloss, colour #cc210 Dijon).

Pricing and Scope of Work

It was important that a firm price be set for budgeting purposes. But given the unknown extent of the repairs, the budget also had to have enough flexibility to accommodate possible changes in the scope of work. With this in mind, a fixed price for easily quantifiable work and unit prices for siding repairs were negotiated.

Conclusions

Repair of traditional siding systems requires patience, care and knowledge of traditional construction methods. It also requires a high level of finishing carpentry skill and some specialized equipment. As described above, the project on the Runciman House siding was probably the most extensive in the 200 years since the house was built. Aside from routine maintenance every five years, buildings like this in humid environments should receive major work of this sort at least every 50 years.

Developing Specification Clauses

Here are some guidelines for developing price quotes and work specifications when dealing with contractors on traditional siding systems.

Bidding

Provide one lump sum price broken down as follows:

- Preparation and repainting of all exterior walls, siding and trim.
- Repair and replacement of siding and wall shingles. (Provide a price for an estimated number of repairs, joints, Dutchman repairs and unit replacement for the exterior siding, shingles and trim. Provide an hourly rate and unit price for required repairs over and above the estimated number, based on site conditions.)

Materials Requirements

- Wood conditioner: double-boiled linseed oil thinned 50 per cent with turpentine.
- Knot sealer: Zinser Bulls Eye knot sealer.
- Primer: Benjamin Moore top quality oil-based primer.
- Finish paint: Benjamin Moore top quality, oil-based, semi-gloss topcoat.
- Paint colours: estimate windows, sash, trim and body.
- Nails and fasteners: contractor's recommendation in consultation with client's representative.

Procedures

Exterior siding and trim: The goal is to remove all existing accumulated finishes from the siding and trim to bare wood; make all necessary repairs to ensure the siding is stable and sheds the weather—while removing no more historic fabric than absolutely necessary—and refinish.

- Remove all existing finishes to bare wood using a non-damaging procedure approved by the client's representative. Protect all surfaces, profiles and edges from damage. Collect, remove and dispose of all removed paint in accordance with provincial and local codes and regulations. (This work is to be based on a lump sum price.)
- Repair or replace deteriorated, cracked, displaced or failed siding in consultation with the client's representative by inserting Dutchman repairs, mitre splicing in new lengths of siding. Date stamp all new material on the back side. Retain labelled samples of removed historic siding in storage in the garage. (This work is to be based on a time- and materialsbased price.)
- Refinish with three-coat work applied in accordance with the manufacturer's directions with regard to moisture, humidity and temperature. Back prime all surfaces of new material.

Exterior shingles and trim: The goal is to remove all loose, alligatored or flaking paint down to sound, well-adhered paint or bare wood. Make all necessary repairs to shingles to ensure weather shedding. Refinish.

- Remove all loosely bonded material, sand lightly and finish with three-coat work.
- Replace any failed shingles with new to match. Maintain exposure and pattern of width. (This work is to be based on a lump sum price.)

Andrew Powter has been involved in national and international heritage programs and projects. His main areas of interest include historic wood structures, building envelope performance and sustainable heritage conservation practice.